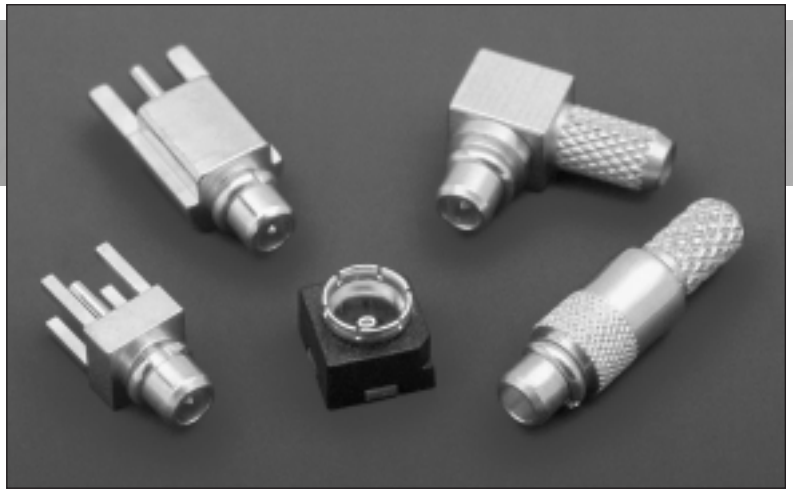


Description

The MMCX series is also called Micromate™. It is Amphenol's smallest RF connector line and was developed in the 1990's.

MMCX is a micro-miniature connector series with a lock-snap mechanism allowing for 360 degrees rotation enabling flexibility in PCB layouts. MMCX connectors conform to the European CECC 22220 Spec.

The micromate family of products is a 6 GHz, 50 Ohm interconnect system. A range of connectors are available including surface mount, edge card, and cable connectors.

Features/Benefits

- Broadband performance with low reflection DC to 6 GHz. Low cost combined with high quality.
- Conforms to European CECC 22000 specifications. Provides customer with second source.
- Quick connect/disconnect snap-on mating reduces installation time.
- Available in many styles: Plugs (Straight and Right Angle) and Printed Circuit Board (Straight and Right Angle). Meets many customer application demands.

Application

- Antennas
- Base Stations
- Broadband Communications
- Cable Assemblies
- Components
- GPS
- Instrumentation
- PCMCIA Cards
- Radio Boards
- Satcom
- Telecom

MMCX

Specifications	6
Surface Mount	7
Application Notes	8
Edgecard & PCB Mount	9-11
Application Notes	10
Cable Connectors	12-14
Between Series Cable Assemblies	15

ELECTRICAL

	CECC22000	Test Requirement
Impedance		50 Ohm
Frequency Range		DC thru 6 GHz
VSWR	4.4.1	
SMT and Edgecard (Mated Pair)		
DC - 4 GHz		1.15 Max
4-6 GHz		1.40 Max
Cabled		
Straight, Semi-Rigid		1.15 Max
Straight, Flex		1.20 Max
Right Angle, Semi-Rigid		1.20 Max
Right Angle, Flex		1.25 Max
Dielectric Withstanding Voltage (at Sea Level)	4.4.5	500 V rms, 50 Hz
Working Voltage (at Sea Level)	4.4.4	≤170 V rms, 50 Hz
Insulation Resistance	4.4.4	≥500 MΩ
Contact Resistance		
Center Conductor	4.4.2	≤10 mΩ
Outer Conductor	4.4.3	≤5 mΩ

NOTE: These characteristics are typical and may not apply to all connectors.

ENVIRONMENTAL

	CECC22000	Test Requirement
Temperature Range		-40°C thru 90°C
Temperature Shock	4.6.7	Mil-STD-202, Method 107
Humidity	4.6.6	Mil-STD-202, Method 103, Condition B
Vibration	4.6.3	3 cycles, 3 opposite directions, 10-150 Hz, 10-60 Hz: 0.75mm/.030 in., 60-150Hz 10G's
Mechanical Shock	4.6.4	Mil-STD-202, Method 213, Condition B

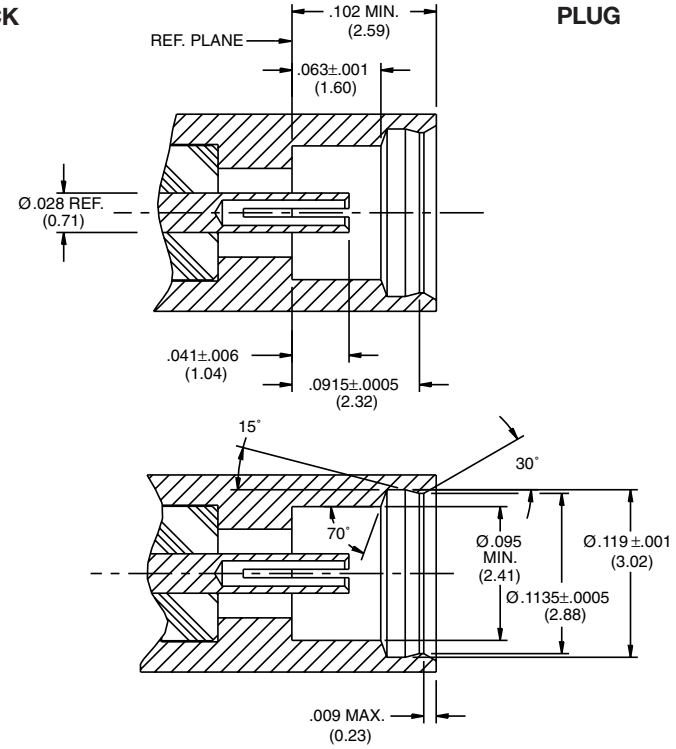
MECHANICAL

	CECC22000	Test Requirement
Engagement Force	4.5.4	≤3.4 lbs.
Disengagement Force	4.5.4	1.4 lbs. to 3.4 lbs.
Contact Captivation	4.5.2	2.3 lbs.
Durability (Machined)	4.7.1	≥500 cycles

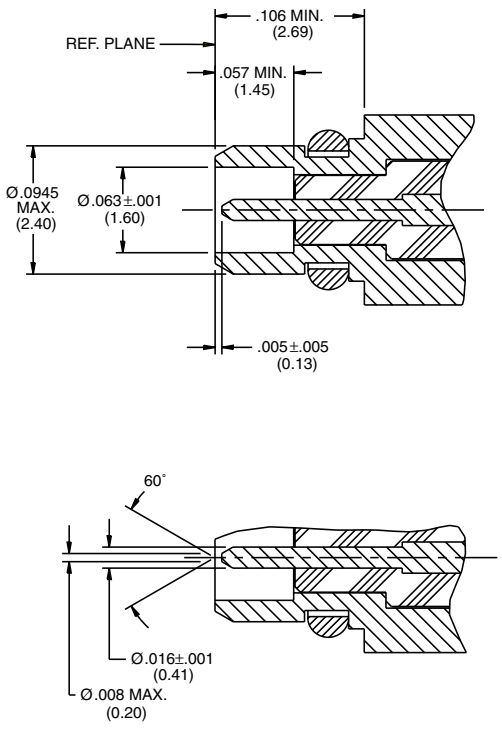
MATERIAL

Connector Part	Standards	Material	Plating
Leads	QQ-C-530	BeCu	Gold
Contact Socket	QQ-C-530	BeCu	Gold
Outer Conductor	QQ-C-530	BeCu	Gold
Housing (SMT)	—	Liquid Crystal Polymer	—
Insulator	ASTM-D1457	PTFE	—

JACK

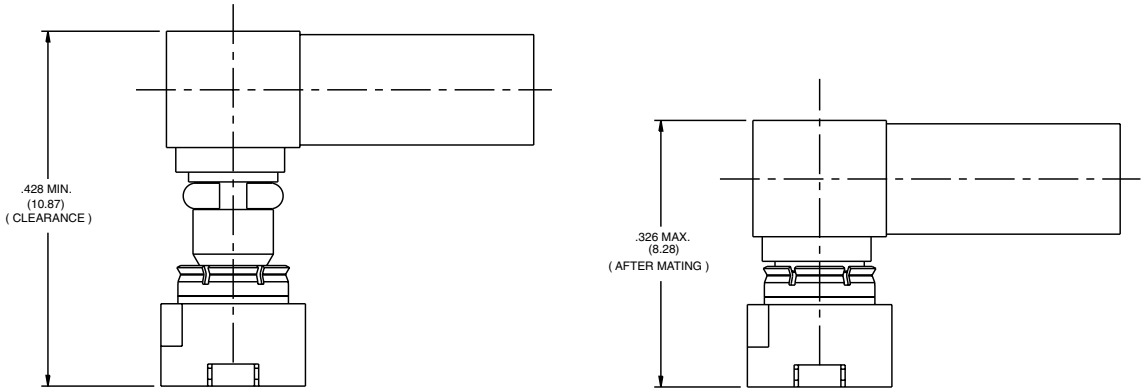


PLUG



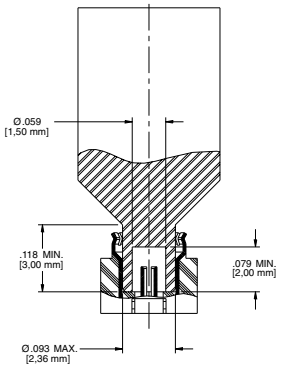
Surface Mount Application Notes

Dimensions for Clearance and Mated Height



Pick and Place Automation

- Amphenol Surface Mount connectors can be assembled to printed circuit boards by state of the art pick and place equipment.
  - Connector pick-up by suction tip
  - Optional insertion tip (see illustration)



Application Notes

Amphenol SMT solder joints act as the mechanical bond to the printed circuit board and also functions as the point of electrical contact. With this in mind, the following points should be considered:

- Avoid forces from the cable of the mating connector to the surface mounted connector.
- For connecting and disconnecting of the surface mounted connector only non-axial forces should be applied. Non-compliance may cause excess torque and damage the solder connectors.

Recommended Mounting Patterns

Fig. M3

Preferred Layout

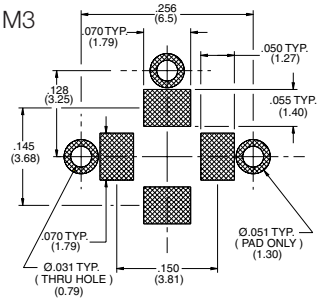
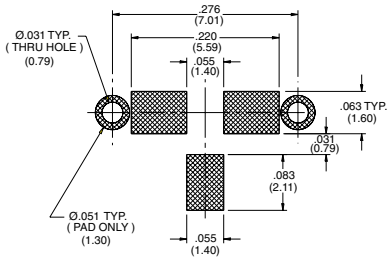


Fig. M4

Alternate Layout

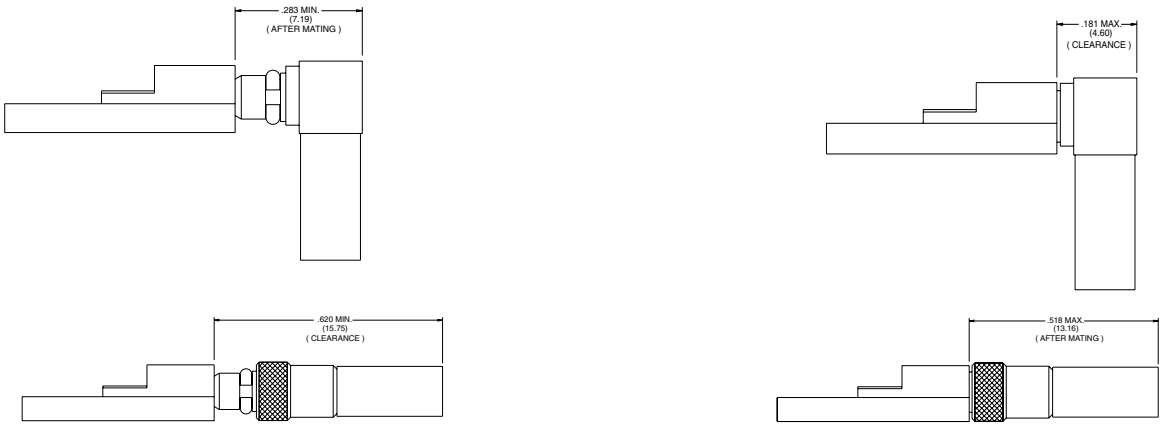


Soldering

MicroMate (MMCX) product is compatible with the following soldering methods.

- Infrared Soldering (Max 260˚C/500˚F)
- Vapor Phase Soldering (215˚C/419˚F)
- Normal Eutectic Solder Paste (63% tin, 37% lead)
- If stenciled or screened in accordance with the mounting patterns above

Dimensions for Clearance and Mated Height



Pick and Place Automation

- Amphenol Edgecard Mount connectors can be assembled to PC boards with state of the art pick and place equipment.
  - Connector pick-up by suction tip

Application Notes

- Avoid radial forces from the cable of the mating connector to the surface mount connector
- Secure the cable sufficiently
- Apply only axial forces during mating and de-mating

Mounting Patterns

Fig. M1

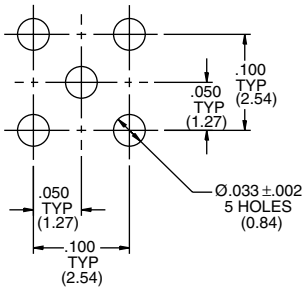
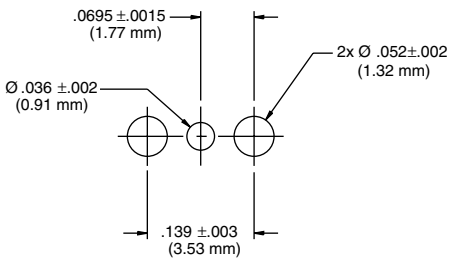
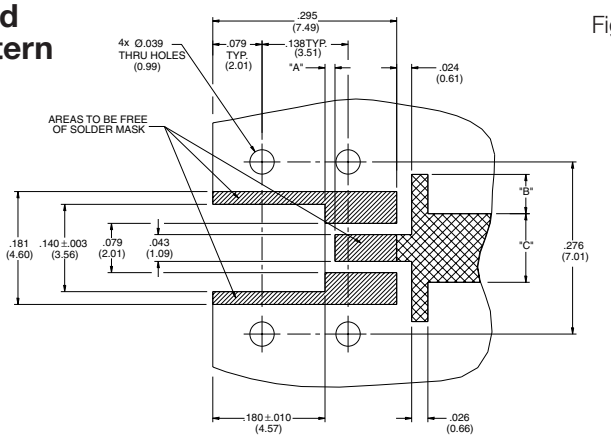


Fig. M2



Recommended Mounting Pattern

Fig. M5



Thickness (FR 4, Er=4.6)	"A"	"B"	"C"
.031 (0.79)	.039 (0.99)	–	.055 (1.40)
.039 (0.99)	.035 (0.89)	.012 (0.30)	.071(1,80)
.063 (1.60)	.016 (0.41)	.063 (1.60)	.110 (2.79)

MicroMate (MMCX) product is compatible with the following soldering methods.

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- Vapor Phase Soldering (215°C/419°F)
- Normal Eutectic Solder Paste (63% tin, 37% lead)
- If stenciled or screened in accordance with the mounting pattern above